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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/964,897	09/28/2001	Pirmin Rombach	45900-000663	1309

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HARNESSE, DICKEY & PIERCE, P.L.C.
P.O. BOX 8910
RESTON, VA 20195

EXAMINER

NI, SUHAN

ART UNIT	PAPER NUMBER
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2643

DATE MAILED: 07/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/964,897

Applicant(s)

ROMBACH ET AL.

Examiner

Suhan Ni

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 May 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17,23-25 and 27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8,10-12,15-17 and 23-25 is/are rejected.
- 7) ☒ Claim(s) 9,13,14 and 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission for RCE filed on 05/28/2004 has been entered.
2. This communication is responsive to the amendment filed on 04/30/2004.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) The invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. Claims 1-3, 6-8 and 23-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Grumazescu (U. S. Pat. - 5,809,157).

Regarding claim 1, Grumazescu discloses a miniature actuator (Fig. 7), comprising: a first and second flux generator (35, 36) for generating a controllable first and second magnetic flux; a movable diaphragm (33, 45) for producing an acoustic output; and means (39-41) for generating a permanent magnetic flux, wherein the movable diaphragm is positioned between the first and second flux generator (Fig. 7) as claimed.

Regarding claims 2-3, Grumazescu further discloses the miniature actuator, wherein the first and second flux generator each comprises a conductive coil (35-36) as claimed.

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Regarding claims 6-8, Grumazescu further discloses the miniature actuator, wherein said means for generating the permanent magnetic flux (39, 44) is symmetrically configured as claimed.

Regarding claims 23-24, Grumazescu further discloses the miniature actuator, wherein said movable diaphragm includes a substantially stiff central magnetic portion (41), and a resilient peripheral portion (42, 45) as claimed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4-5, 10-12, 15-17 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grumazescu (U. S. Pat. - 5,809,157).

Regarding claims 4 and 12, Grumazescu does not clearly teach the coils as claimed. Since providing a suitable coils with desirable coating material for an acoustic actuator is very well known in the art, it therefore would have been obvious to one skilled in the art at the time the invention was made to provide the suitable coils with desirable coating material, such as a synthetic polymer coating for the miniature actuator as an alternate choice, in order to make the actuator more durable.

Regarding claim 5, Grumazescu does not clearly teach how to connect the coils as claimed. Since providing a connection of two voice coils in same or opposite direction for an

acoustic actuator is very well known in the art, it therefore would have been obvious to one skilled in the art at the time the invention was made to desirably connect the coils, such as in parallel with opposite direction of the miniature actuator as an alternate choice, in order to obtain a desirable acoustic effect for certain applications.

Regarding claims 10-11 and 25, Grumazescu does not clearly teach in detail of the magnetic material as claimed. Since providing acoustically desirable and commercially available material for forming the magnet of a speaker is very well known in the art, it therefore would have been obvious to one skilled in the art at the time the invention was made to be motivated to select and provide a suitable magnetic material, such as Fe, for the magnet of the actuator as an alternate choice, for more effectively and efficiently manufacturing the miniature actuator.

Regarding claims 15-17, Grumazescu does not clearly teach for how to utilize the actuator as claimed. Since Grumazescu does not specially restrict the usage of the actuator, and suggest for utilizing the actuator for miniature electronic device (col. 1, line 62 to col. 4, line 13), it therefore would have been obvious to one skilled in the art at the time the invention was made to provide the miniature actuator for a suitable handheld device, such as a cellular phone, in order to utilize the miniature actuator.

Allowable Subject Matter

5. Claims 9, 13-14 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Amendment

6. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Suhan Ni** whose telephone number is (703)-308-9322, and the number for fax machine is (703)-305-9508. The examiner can normally be reached on Monday through Thursday from 9:00 am to 7:30 pm. If it is necessary, the examiner's supervisor, **Curtis Kuntz**, can be reached at (703) 305-4708.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (703) 305-3900.

SN

July 02, 2004


SUHAN NI
PRIMARY EXAMINER